

WHAT IS CLAIMED IS:

1                    1.        1.        An integrated circuit chip comprising:  
2                    a substrate, the substrates comprising a plurality of chip structures;  
3                    a plurality of bonding pads disposed on the substrate, each of the bonding pads  
4 being formed from an aluminum bearing material;  
5                    a surface region formed on each of the bonding pads;  
6                    an under bump metal layer overlying the surface region;  
7                    a wetting layer formed overlying the surface region, the wetting layer  
8 comprising a plurality of protrusions extending out of the wetting layer and disposed spatially  
9 on the wetting layer;  
10                   a bump layer overlying the wetting layer and mechanically coupling the  
11 plurality of protrusions.

1                    2.        The chip of claim 1 wherein the under bump metal comprises an  
2 adhesive material, a wetting material, and a protective material.

1                    3.        The chip of claim 1 wherein each of the protrusions has a  
2 predetermined height and a predetermined width.

1                    4.        The chip of claim 1 wherein each of the protrusions has a  
2 predetermined height, the height ranging from about 15 to about 20 microns.

1                    5.        The chip of claim 1 wherein each of the bonding pads has a dimension  
2 of about 80 microns by about 80 microns.

1                    6.        The chip of claim 1 wherein the wetting layer is provided by a  
2 deposition or plating process.

1                    7.        The chip of claim 1 wherein the plurality of protrusions prevents a  
2 possibility of the bump layer from peeling from the surface region of the bonding pad.

1                    8.        The chip of claim 1 wherein the plurality of protrusions prevents a  
2 possibility of the bump layer from peeling from the surface region during a reflow process.

1                    9.        The chip of claim 1 wherein the substrate comprises silicon.

1                    10.     The chip of claim 1 wherein the substrate is a silicon on insulator  
2 wafer.

1                    11.     A method for fabricating an integrated circuit chip comprising:  
2                    providing a substrate;  
3                    forming a plurality of bonding pads overlying the substrate, each of the  
4 bonding pads being formed from an aluminum bearing material and including a surface  
5 region;  
6                    forming an under bump metal layer overlying the surface region;  
7                    forming a wetting layer overlying the under bump metal layer, the wetting  
8 layer comprising a plurality of protrusions extending out of the wetting layer and disposed  
9 spatially on the wetting layer; and  
10                   forming a bump layer overlying the wetting layer and mechanically coupling  
11 to the plurality of protrusions.

1                    12.     The method of claim 11 wherein the under bump metrology comprises  
2 an adhesive material, a wetting material, and a protective material.

1                    13.     The method of claim 11 wherein each of the protrusions has a  
2 predetermined height and a predetermined width.

1                    14.     The method of claim 11 wherein each of the protrusions has a  
2 predetermined height, the height ranging from about 15 to about 20 microns.

1                    15.     The method of claim 11 wherein each of the bonding pads has a  
2 dimension of about 80 microns by about 80 microns.

1                    16.     The method of claim 11 wherein the wetting layer is provided by a  
2 deposition or plating process.

1                    17.     The method of claim 11 wherein the plurality of protrusions prevents a  
2 possibility of the bump layer from peeling from the surface region of the bonding pad.

1                    18.     The method of claim 11 further comprising reflowing the bump layer  
2 while maintaining the bump layer on the surface region through the plurality of protrusions.

3